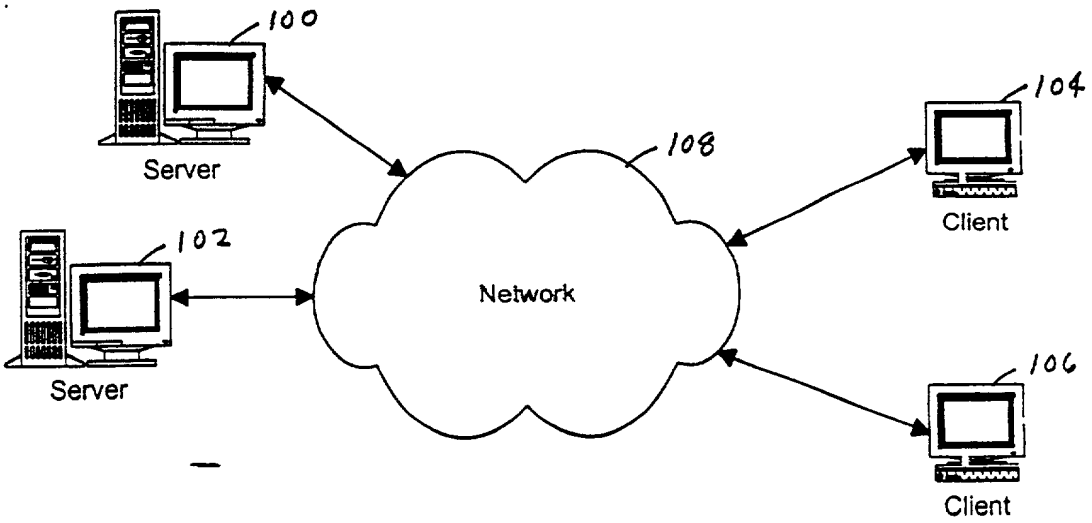


FIG. 1
(Prior Art)

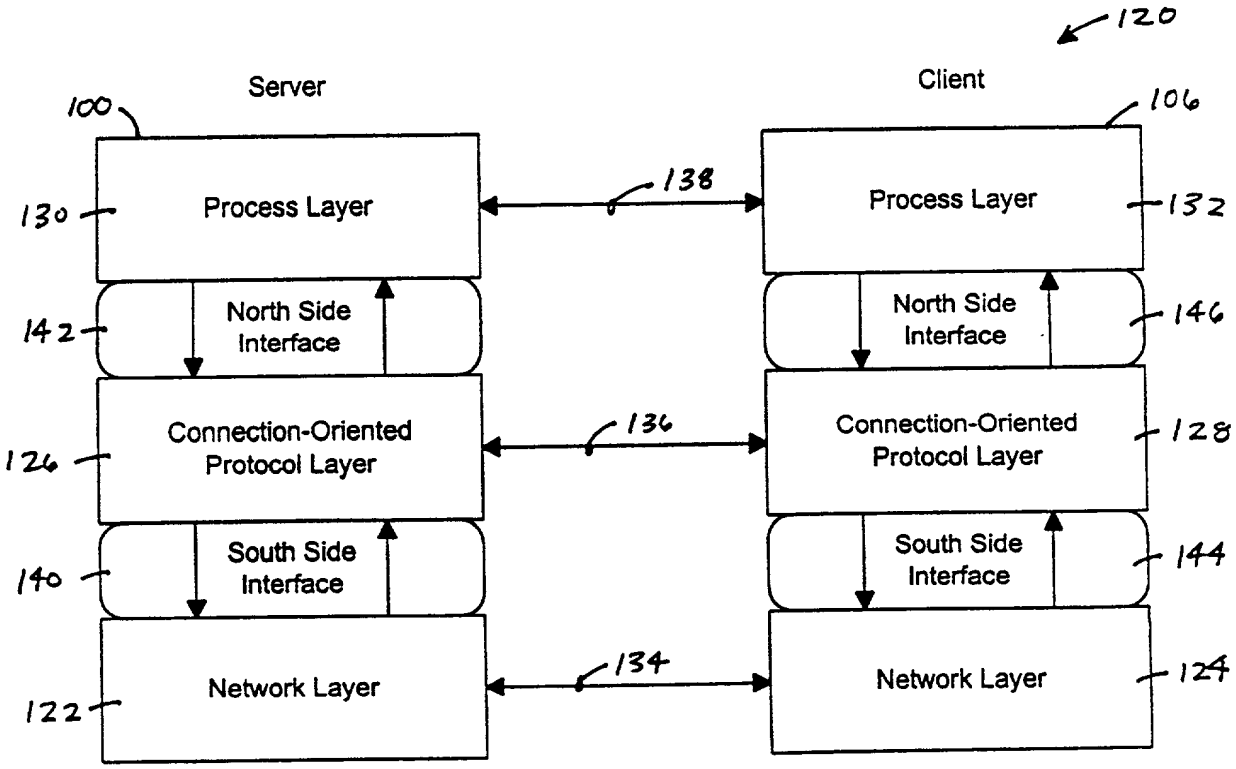


FIG. 2
(Prior Art)

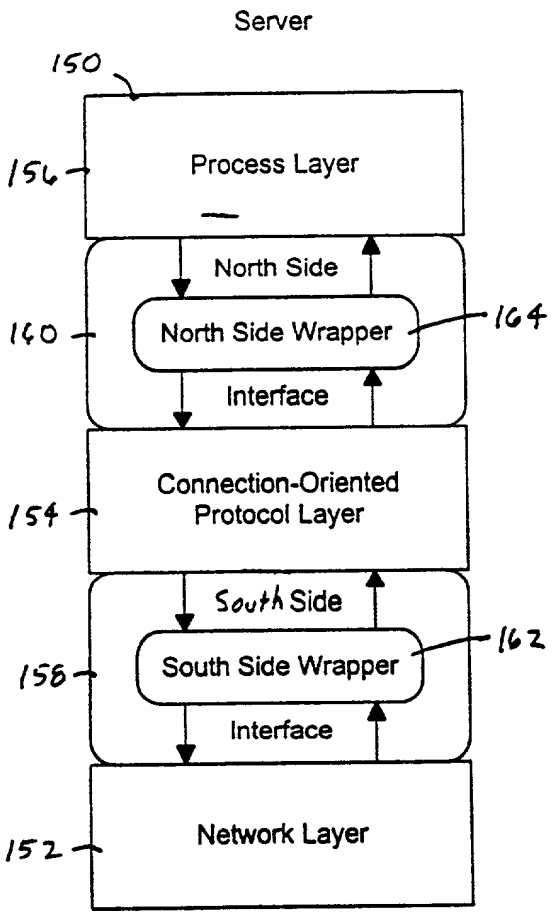

Server
150
Process Layer
156
North Side
North Side Wrapper
164
160
Interface
Connection-Oriented
Protocol Layer
154
South Side
South Side Wrapper
162
158
Interface
Network Layer
152

FIG. 3A

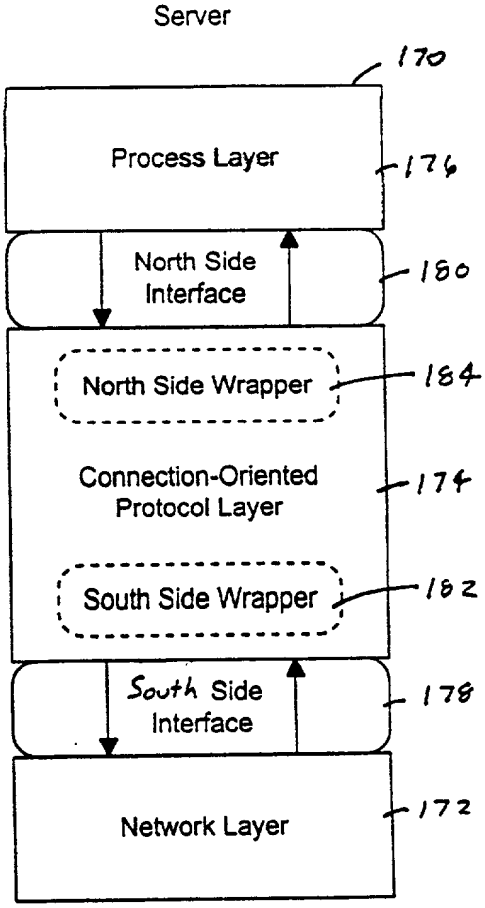

Server
170
Process Layer
176
North Side
Interface
180
North Side Wrapper
184
Connection-Oriented
Protocol Layer
174
South Side Wrapper
182
South Side
Interface
178
Network Layer
172

FIG. 3B

FIG. 4A

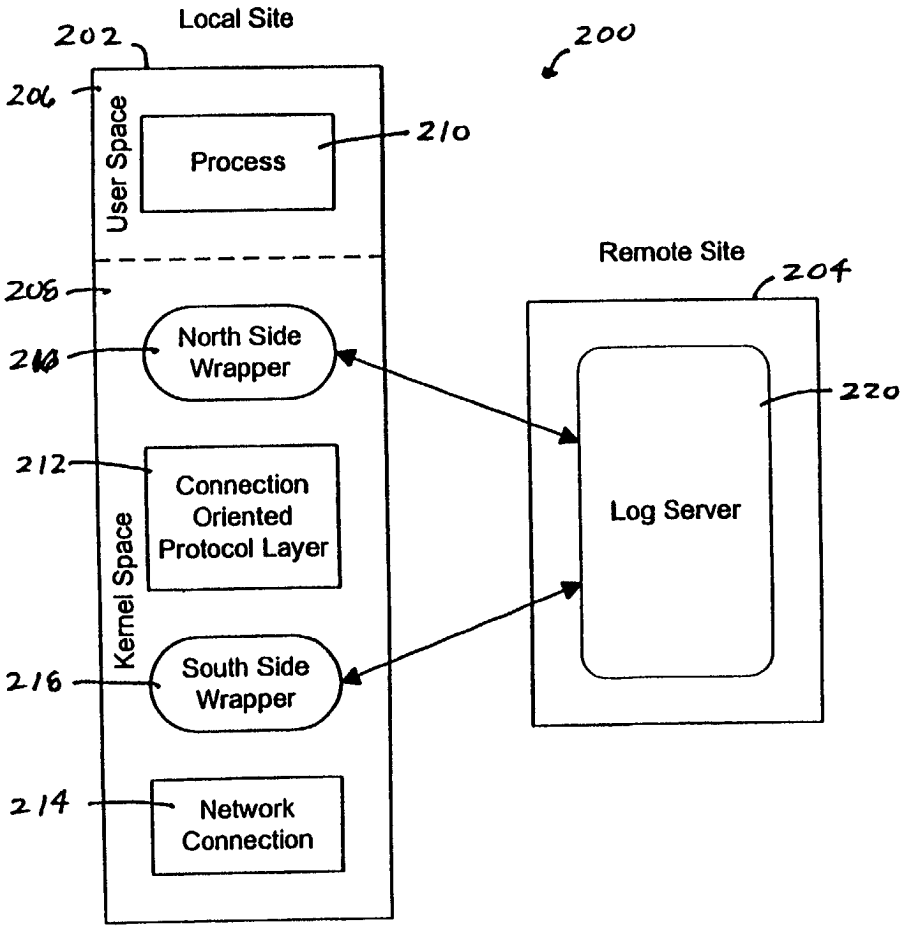
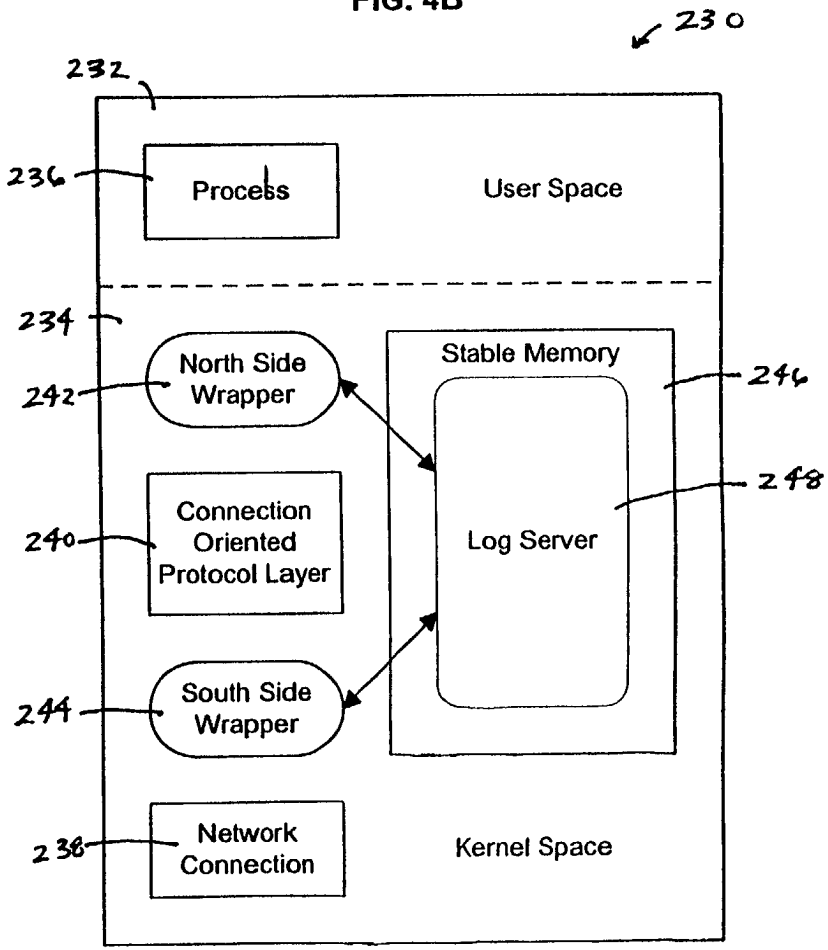

Local Site
202
200
206
User Space
Process
210
Remote Site
204
208
North Side Wrapper
220
212
Connection Oriented Protocol Layer
Log Server
Kernel Space
216
South Side Wrapper
214
Network Connection

FIG. 4B


230
232
236
Process
User Space
234
North Side Wrapper
Stable Memory
246
242
Connection Oriented Protocol Layer
248
Log Server
240
South Side Wrapper
244
Network Connection
238
Kernel Space

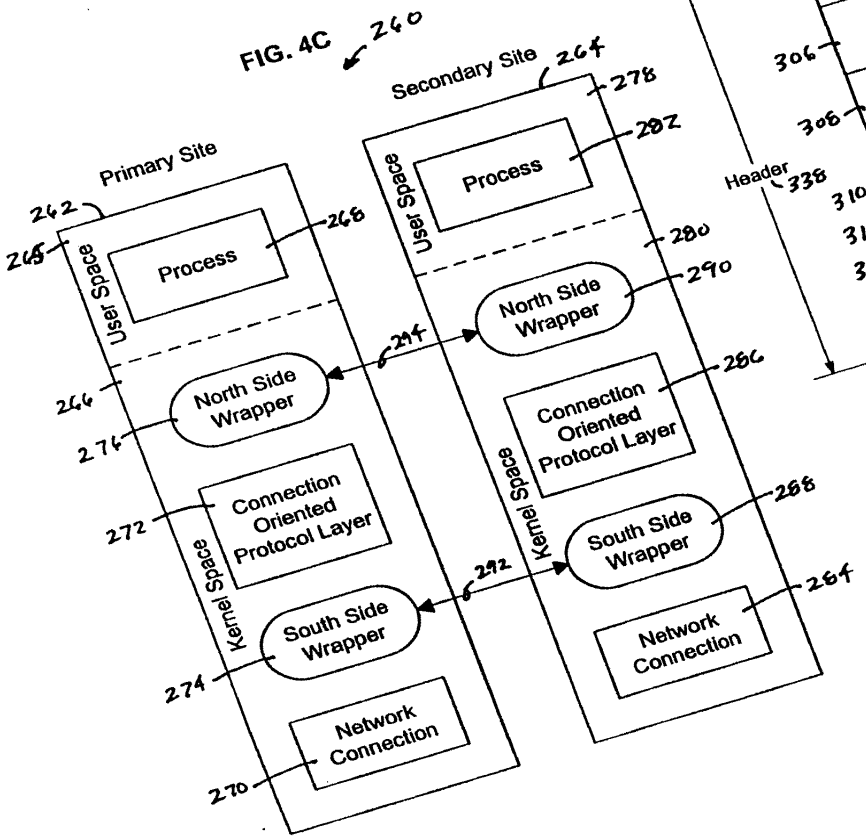


FIG. 4C
240
Primary Site
Secondary Site
User Space
Kernel Space
Process
North Side Wrapper
Connection Oriented Protocol Layer
South Side Wrapper
Network Connection
262
264
265
266
268
270
272
274
276
278
280
282
284
286
288
290
292
294

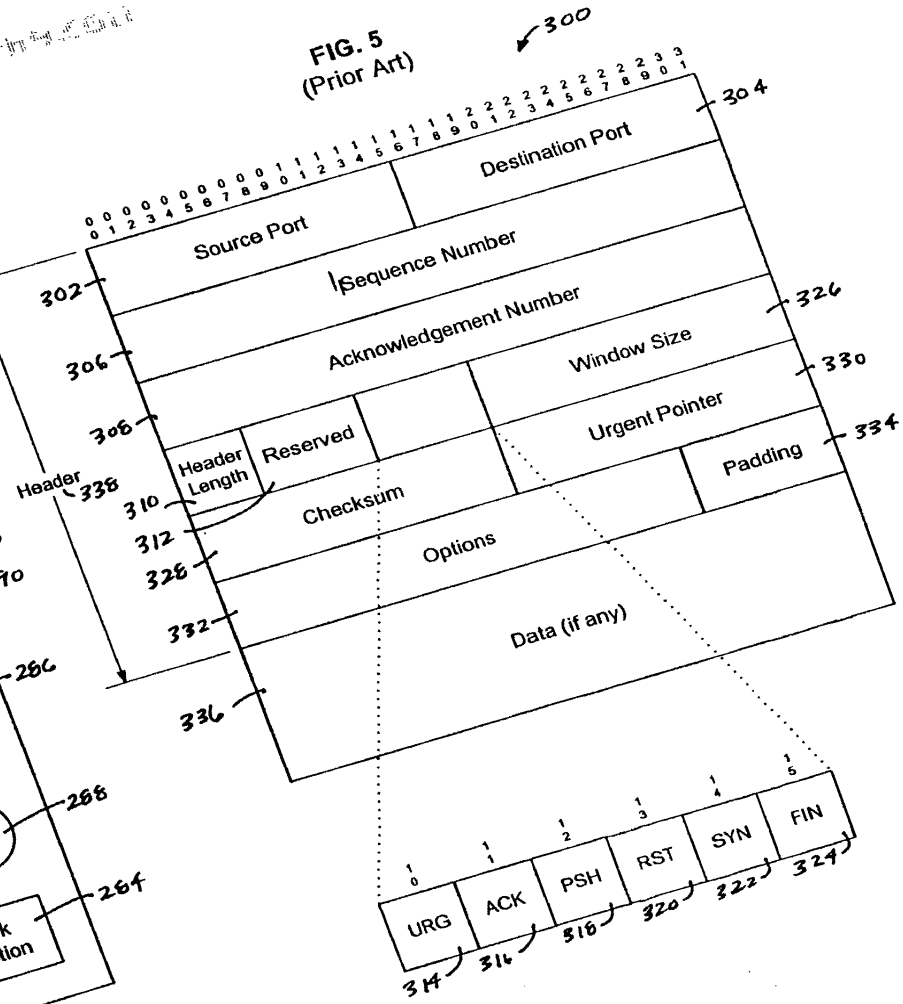
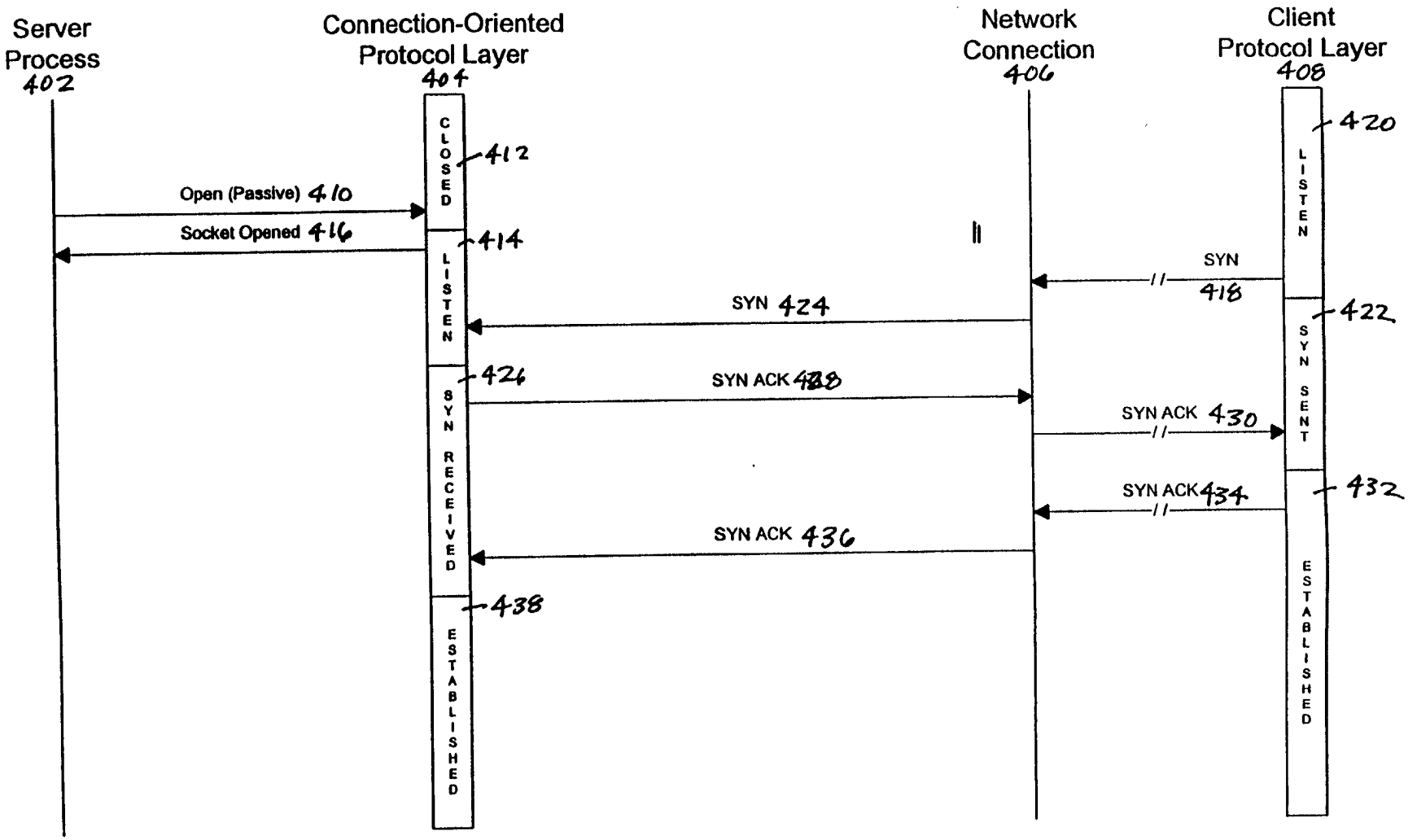


FIG. 5
(Prior Art)
300
Source Port
Destination Port
Sequence Number
Acknowledgement Number
Header Length
Reserved
Window Size
Urgent Pointer
Checksum
Padding
Options
Data (if any)
URG
ACK
PSH
RST
SYN
FIN
Header
302
304
306
308
310
312
314
316
318
320
322
324
326
328
330
332
334
336
338

FIG. 6
(Prior Art)



F. 7
(Prior Art)

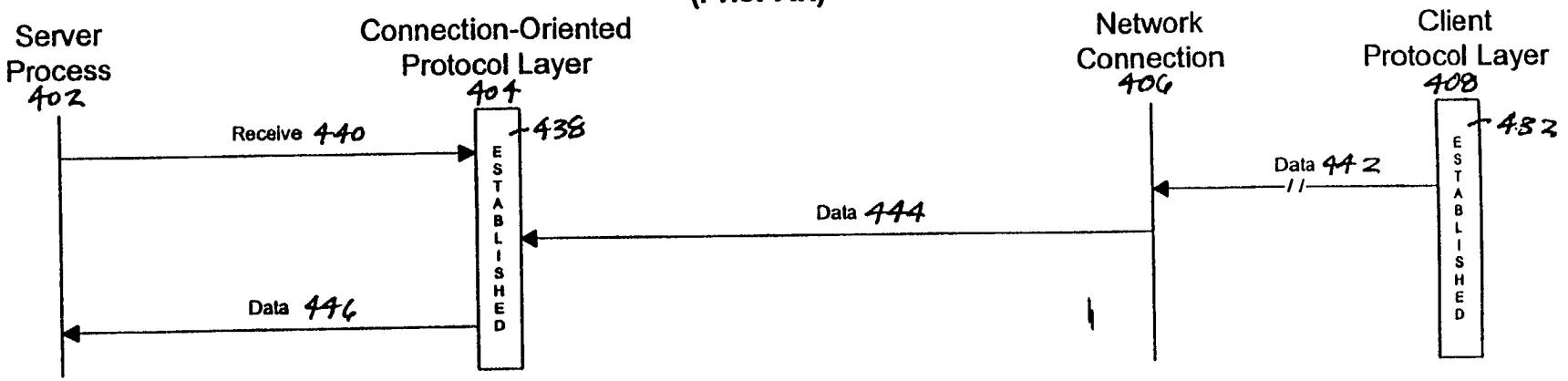


FIG. 8
(Prior Art)

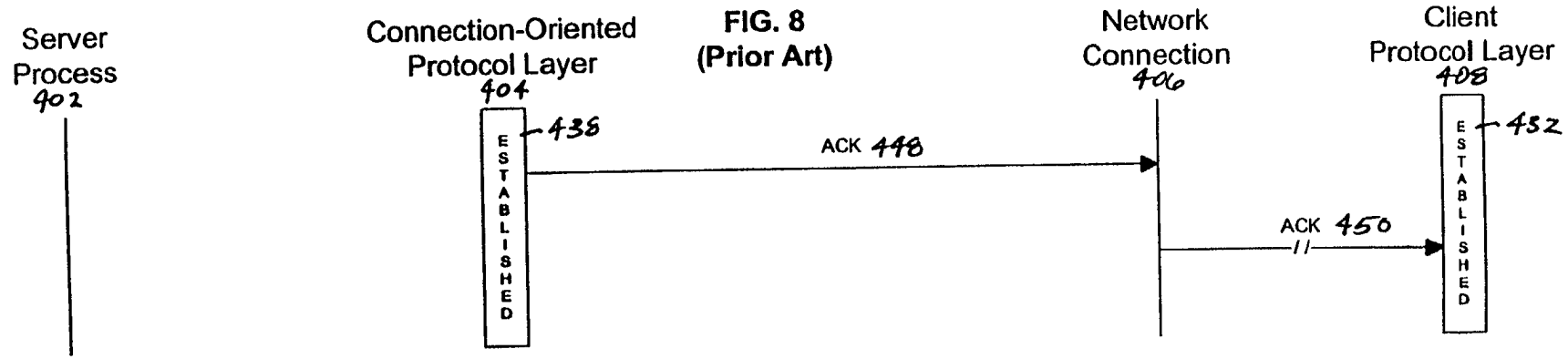


FIG. 9
(Prior Art)

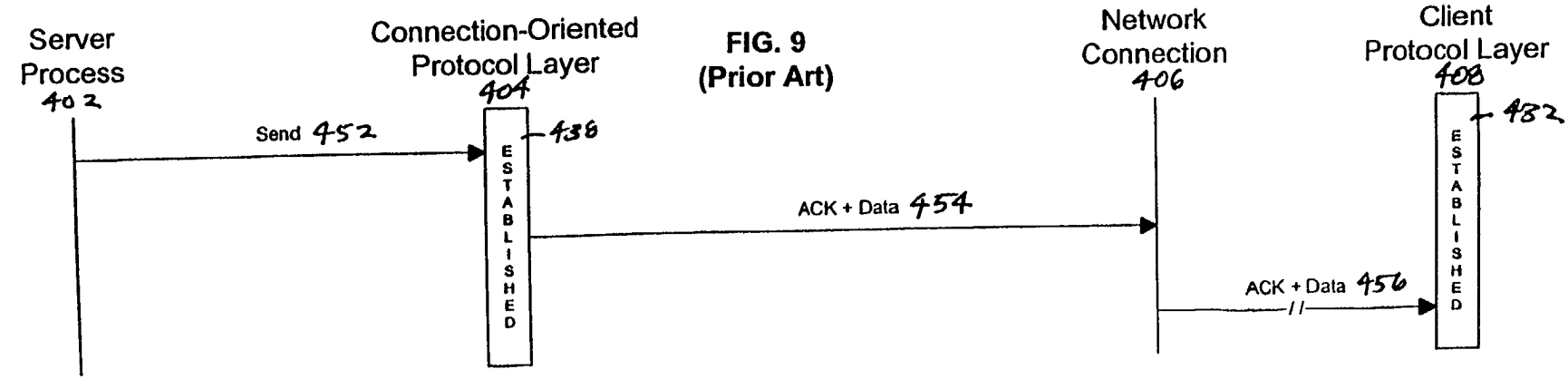


FIG. 10
(Prior Art)

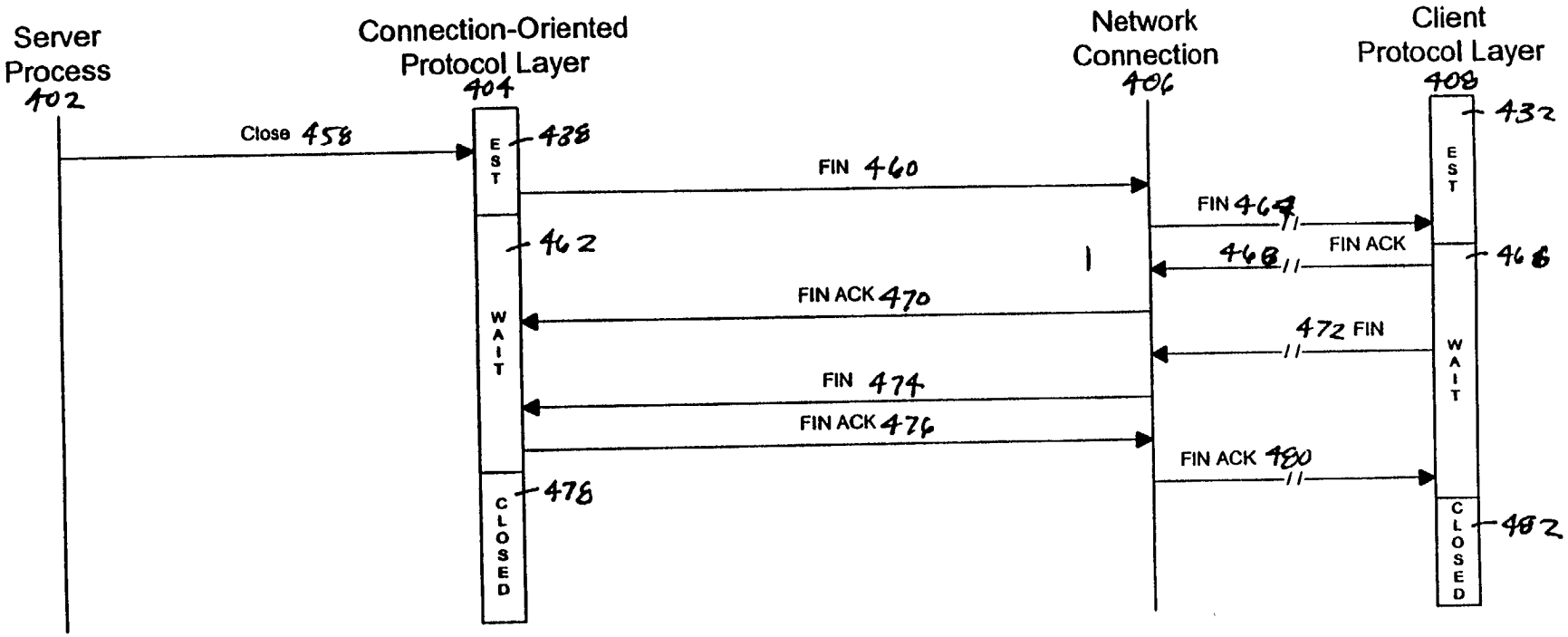


FIG. 11
(Prior Art)

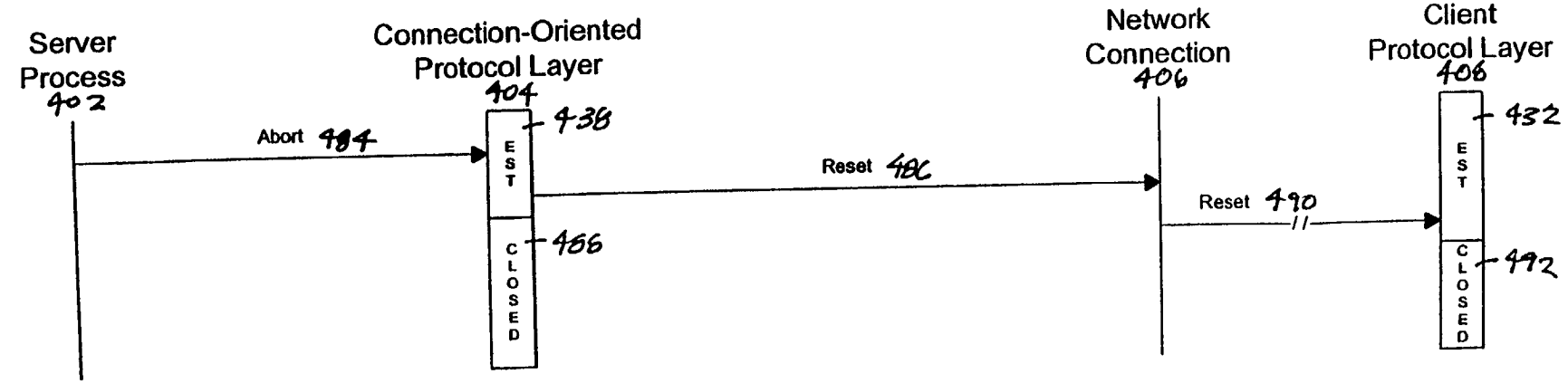


FIG. 12

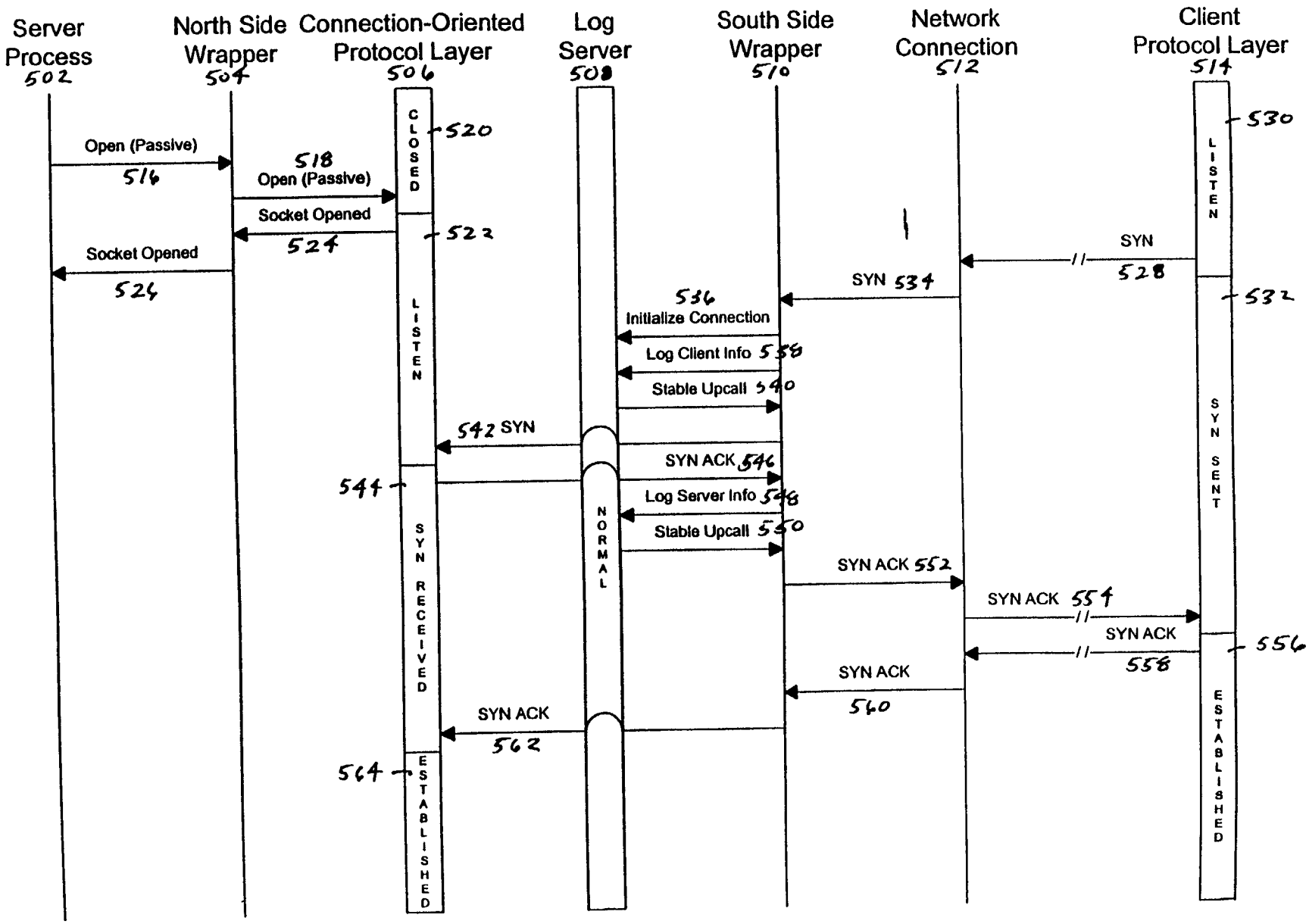

Server Process 502
North Side Wrapper 504
Connection-Oriented Protocol Layer 506
Log Server 508
South Side Wrapper 510
Network Connection 512
Client Protocol Layer 514
Open (Passive) 516
518 Open (Passive)
Socket Opened 524
Socket Opened 524
CLOSED 520
LISTEN 522
SYN RECEIVED 544
ESTABLISHED 564
NORMAL
LISTEN 530
SYN SENT 532
ESTABLISHED 556
SYN 528
SYN 534
536 Initialize Connection
Log Client Info 538
Stable Upcall 540
542 SYN
SYN ACK 546
Log Server Info 548
Stable Upcall 550
SYN ACK 552
SYN ACK 554
SYN ACK 558
SYN ACK 560
SYN ACK 562

FIG. 13

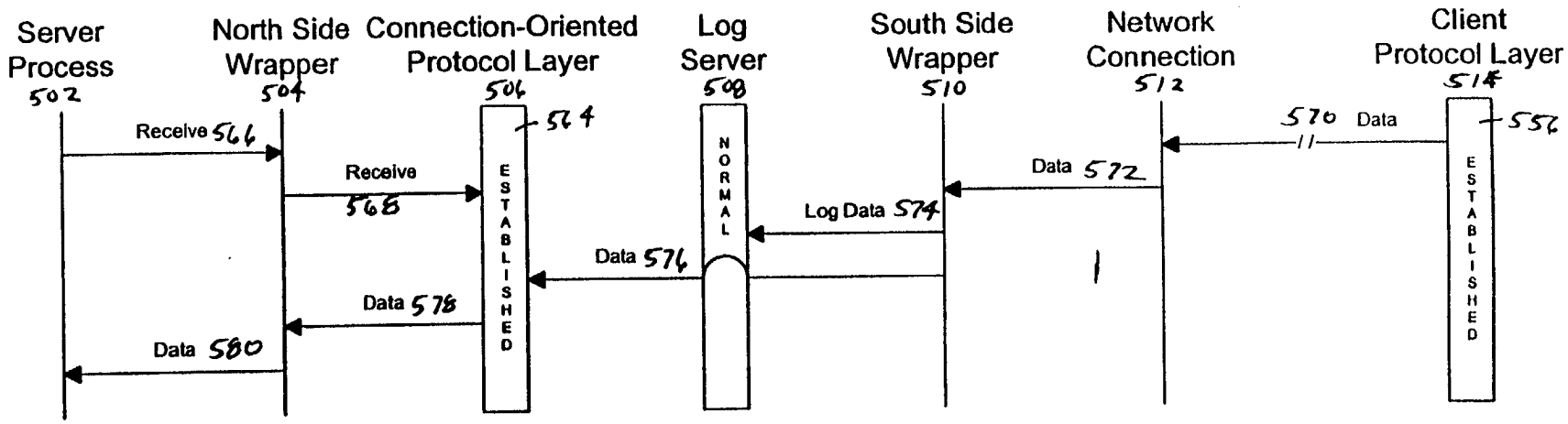


FIG. 14

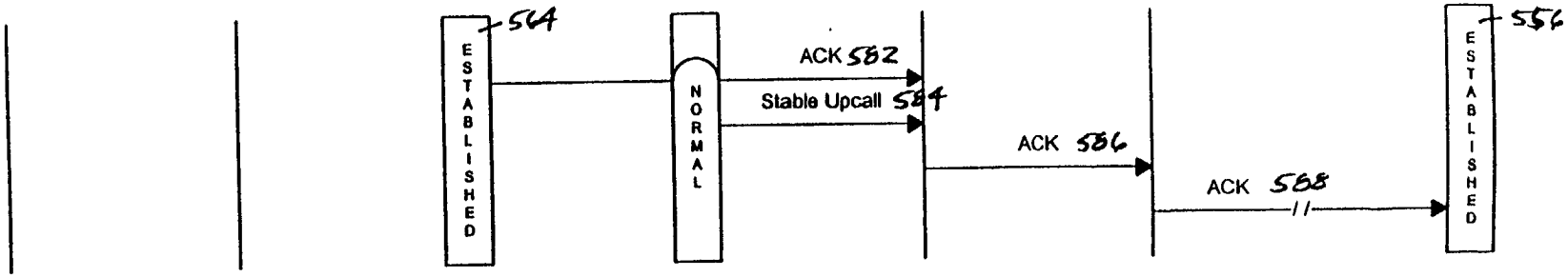


FIG. 15

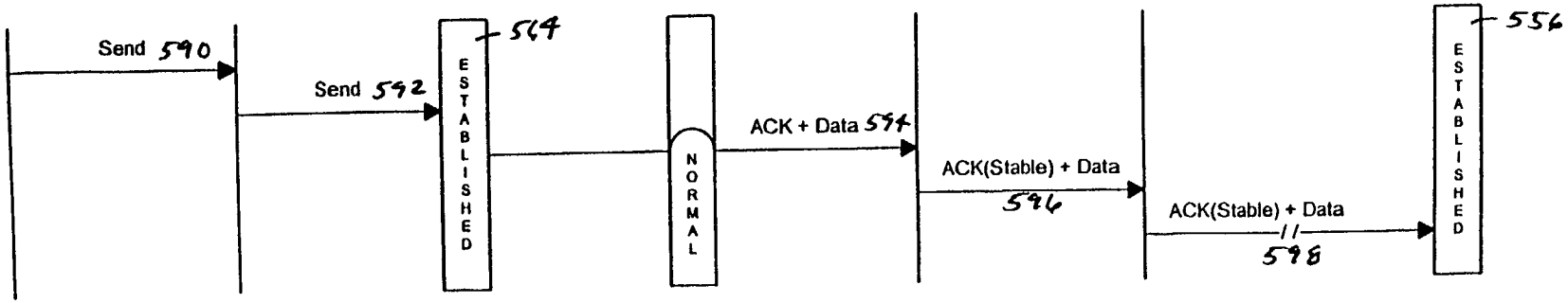


FIG. 16

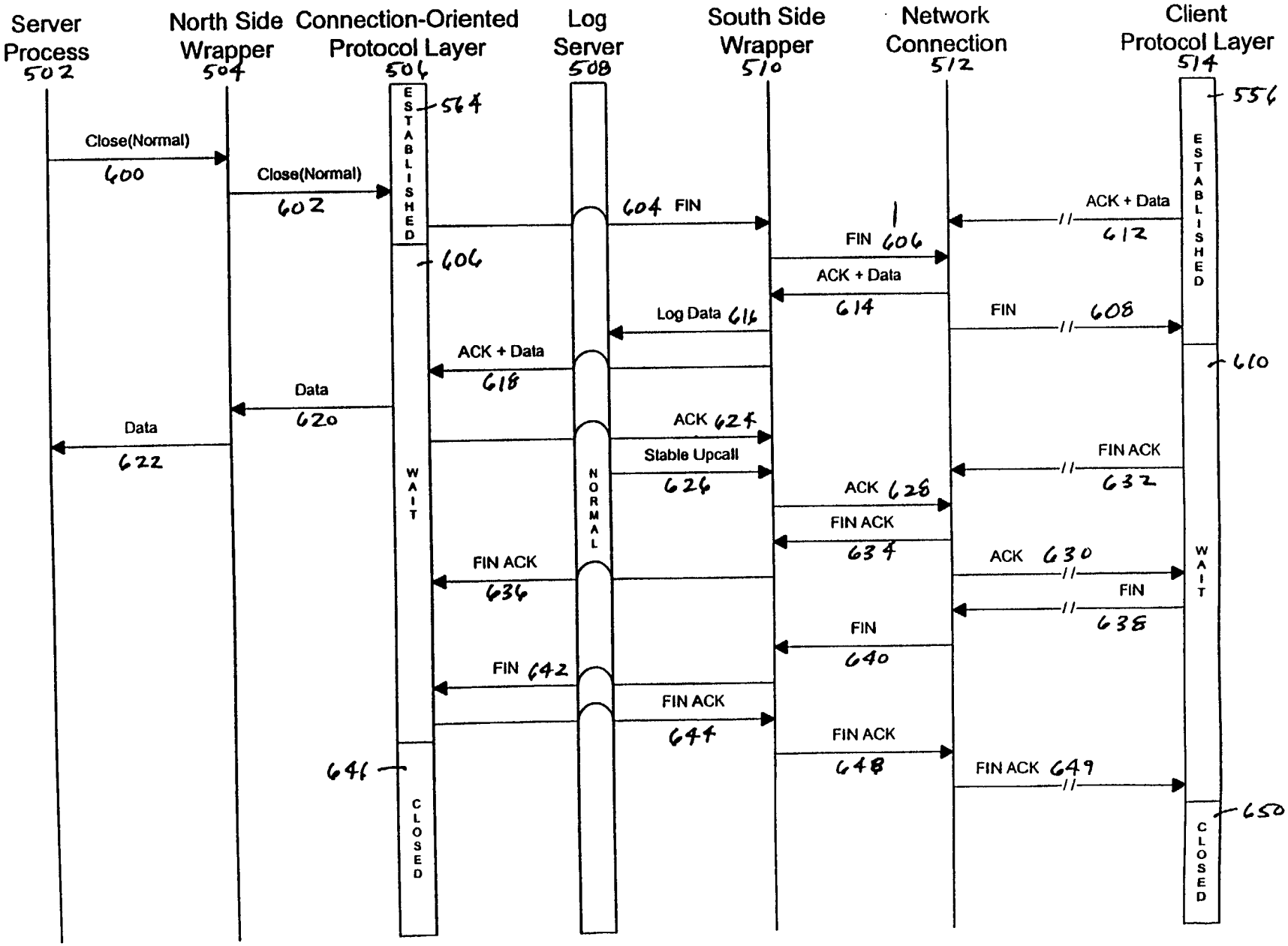

Server Process 502
North Side Wrapper 504
Connection-Oriented Protocol Layer 506
Log Server 508
South Side Wrapper 510
Network Connection 512
Client Protocol Layer 514
ESTABLISHED
564
556
Close(Normal) 600
Close(Normal) 602
604 FIN
FIN 606
ACK + Data 612
ACK + Data 614
606
Log Data 616
FIN 608
ACK + Data 618
610
Data 620
ACK 624
Data 622
Stable Upcall 626
FIN ACK 632
ACK 628
FIN ACK 634
ACK 630
FIN ACK 636
FIN 638
FIN 640
FIN 642
FIN ACK 644
FIN ACK 648
FIN ACK 649
646
650
WAIT
NORMAL
CLOSED

FIG. 17

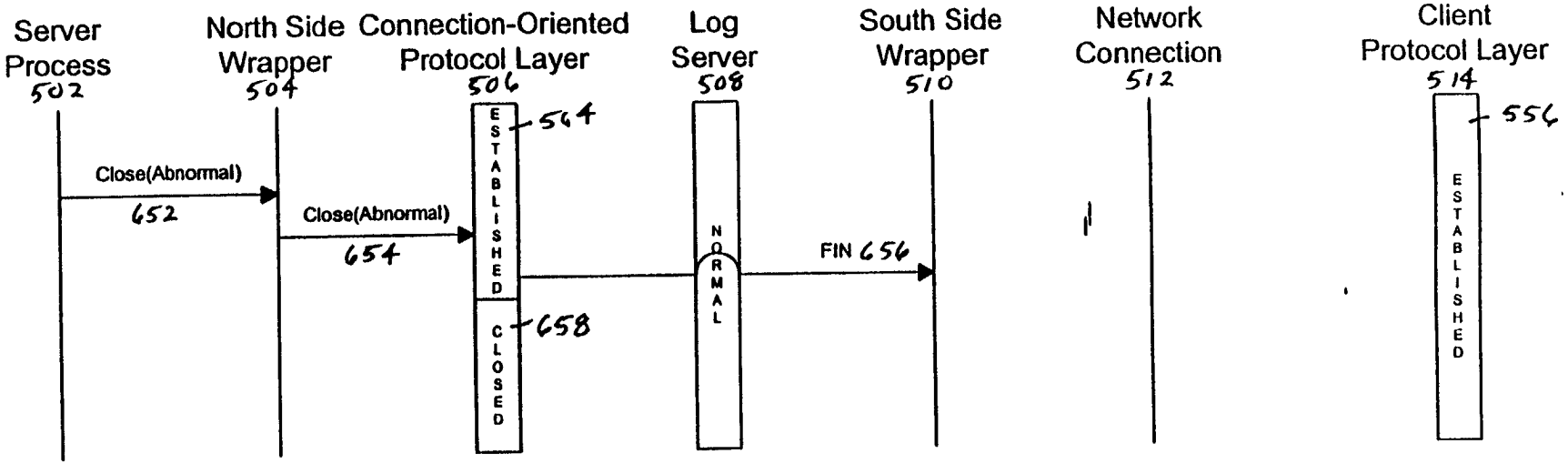

Server Process 502
North Side Wrapper 504
Connection-Oriented Protocol Layer 506
Log Server 508
South Side Wrapper 510
Network Connection 512
Client Protocol Layer 514
ESTABLISHED
564
CLOSED
658
NORMAL
556
Close(Abnormal)
652
Close(Abnormal)
654
FIN 656

FIG. 18

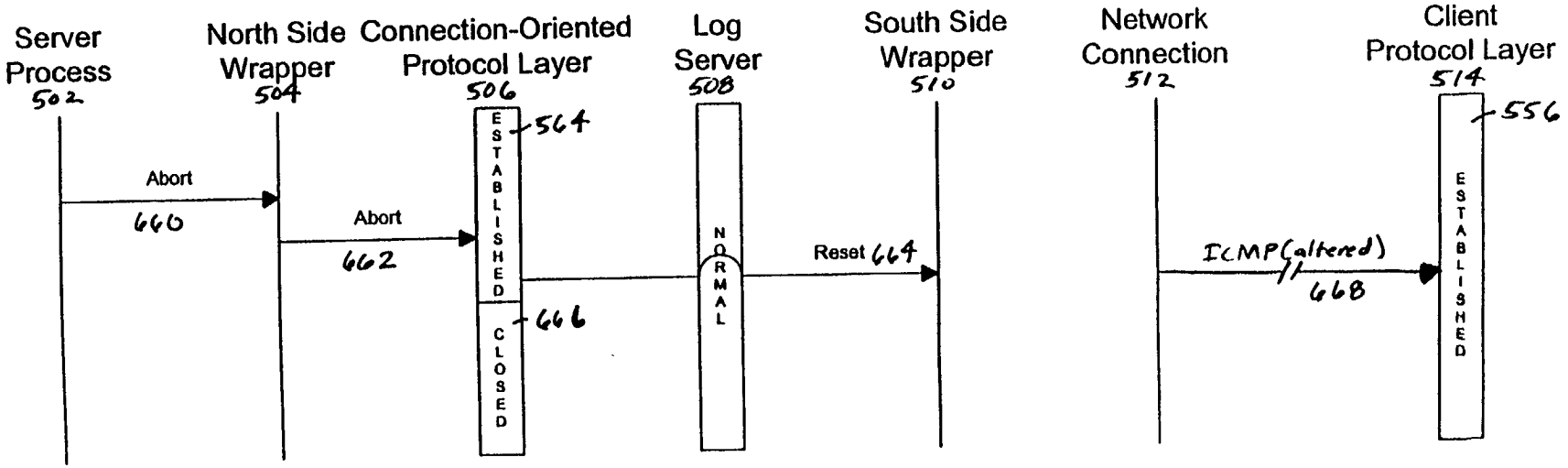

Server Process 502
North Side Wrapper 504
Connection-Oriented Protocol Layer 506
Log Server 508
South Side Wrapper 510
Network Connection 512
Client Protocol Layer 514
ESTABLISHED
564
CLOSED
666
NORMAL
556
Abort
660
Abort
662
Reset 664
ICMP(altered)
668

FIG. 19

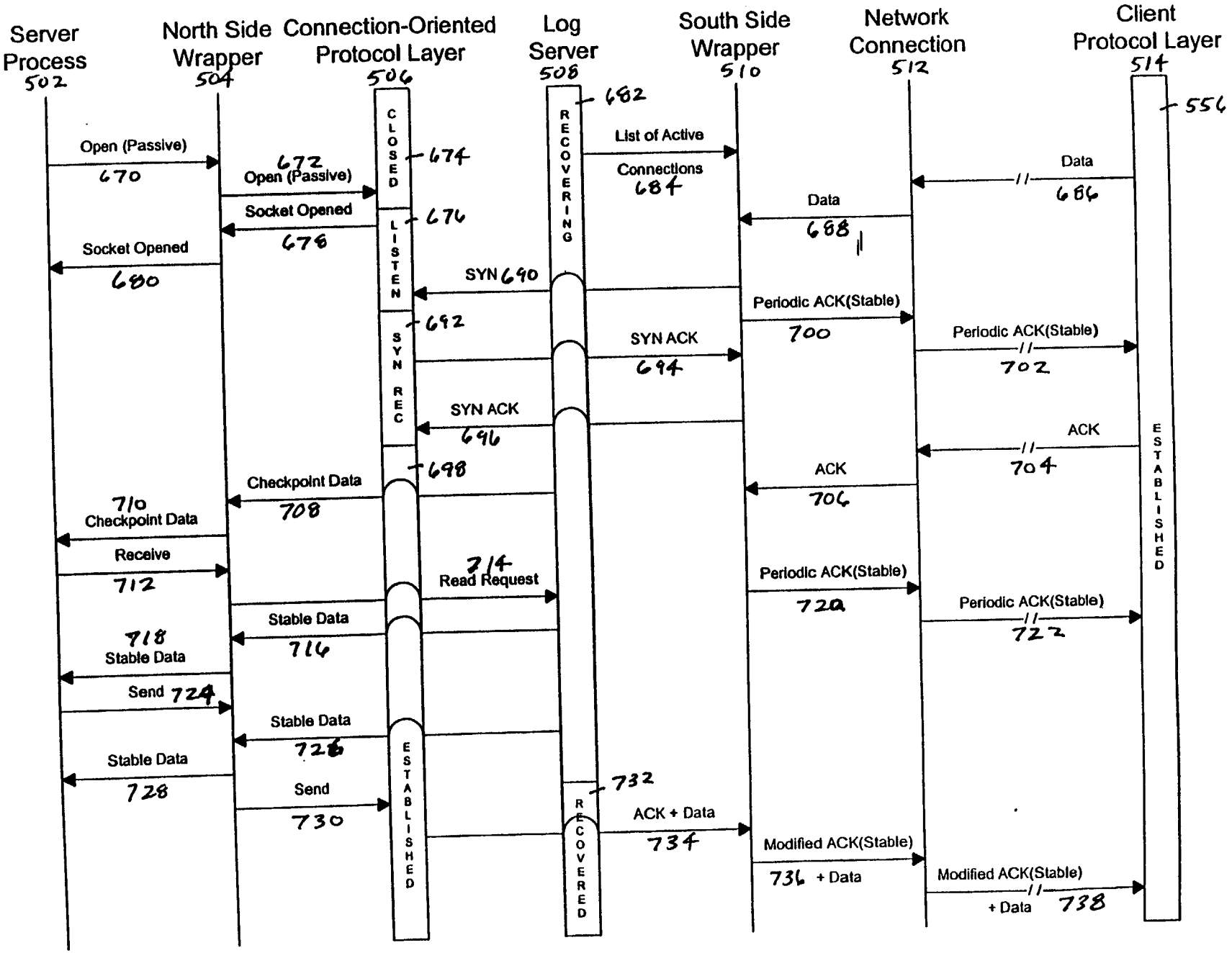

Server Process 502
North Side Wrapper 504
Connection-Oriented Protocol Layer 506
Log Server 508
South Side Wrapper 510
Network Connection 512
Client Protocol Layer 514
556
CLOSED
LISTEN
SYN REC
ESTABLISHED
RECOVERING
RECOVERED
ESTABLISHED
682
674
676
692
698
732
Open (Passive) 670
Open (Passive) 672
Socket Opened 676
Socket Opened 680
SYN 690
List of Active Connections 684
Data 686
Data 688
Periodic ACK(Stable) 700
Periodic ACK(Stable) 702
SYN ACK 694
SYN ACK 696
ACK 704
ACK 706
Checkpoint Data 708
710 Checkpoint Data
Receive 712
714 Read Request
Periodic ACK(Stable) 720
Periodic ACK(Stable) 722
Stable Data 716
718 Stable Data
Send 724
Stable Data 726
Stable Data 728
Send 730
ACK + Data 734
Modified ACK(Stable) 736 + Data
Modified ACK(Stable) + Data 738

FIG. 20

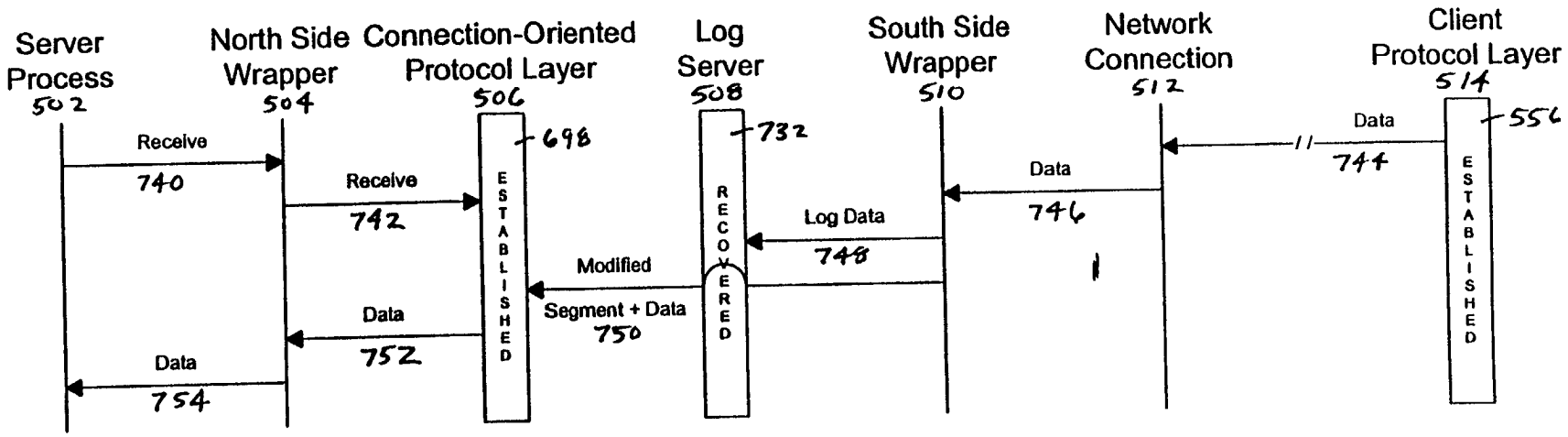


FIG. 21

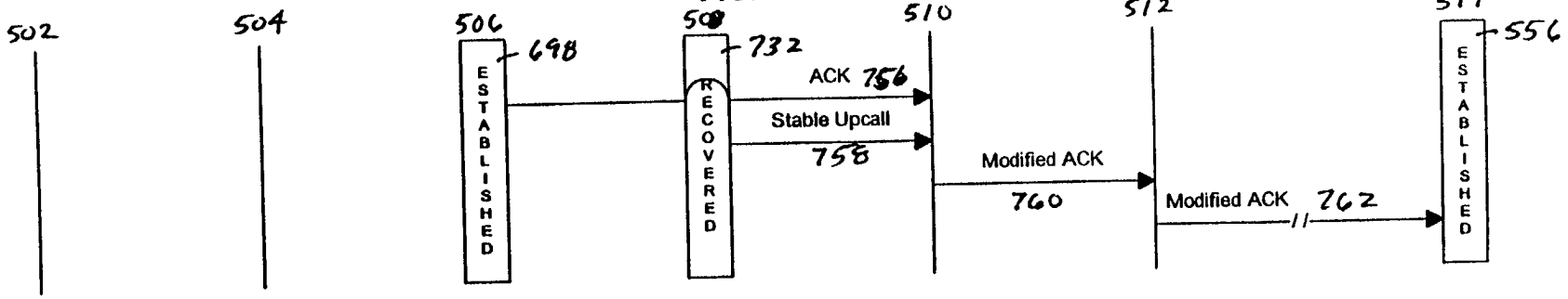


FIG. 22

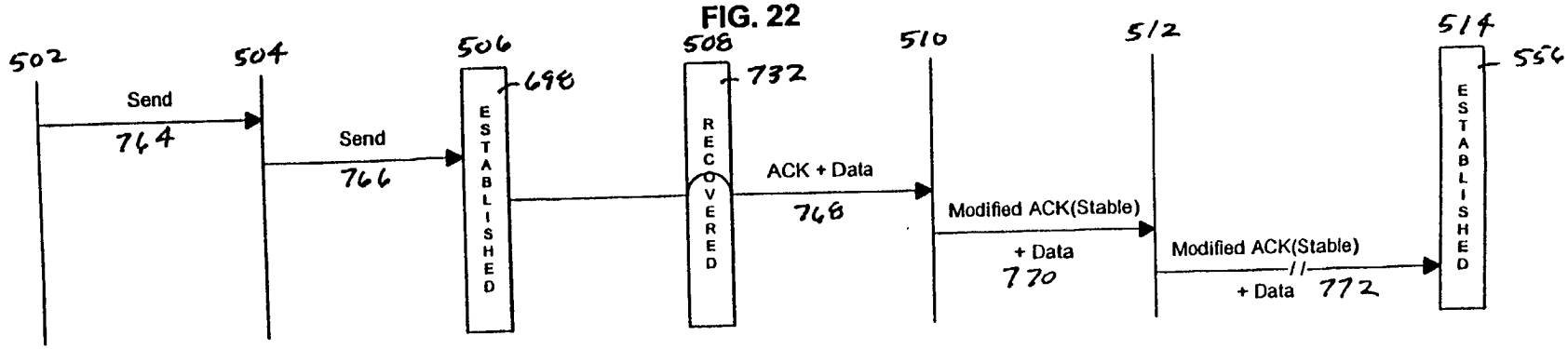


FIG. 23